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Updated CPR Guidelines for Training Programs

The following table outlines new changes in the CPR and First Aid guidelines that will be integrated into CPR/AED training program materials.

	<i>New Guideline</i>	<i>Old Guideline</i>	<i>Rationale for Change</i>
1.	Use the head tilt-chin lift maneuver to open a patient's airway, regardless if they are injured or not.	Use the head tilt-chin lift maneuver as the primary method of opening a patient's airway. If injury to the head, neck, or back is present or suspected, attempt jaw thrust without head tilt to open the airway.	It is difficult for lay providers to effectively perform the jaw thrust without moving the spine. The head tilt-chin lift is more effective in establishing an airway. In the unlikely case when an injury to the neck has occurred, an open and clear airway is a higher priority of care.
2.	Take a normal breath prior to giving a rescue ventilation.	Take a deep breath prior to giving a rescue ventilation.	Taking a normal breath will help prevent responders from becoming light-headed during resuscitation. It will also help prevent complications from over-ventilation, such as gastric distention.
3.	For all ages, give ventilations that are approximately 1 second in length.	Ventilations for adults should be 1½ to 2 seconds in length. Ventilations for infants and children should be 1 to 1½ seconds in length.	Evidence shows that giving ventilations results in a significant interruption of time between chest compressions. Shortening ventilation time will result in shorter interruptions. It will also help prevent complications from over-ventilation, such as gastric distention.
4.	If normal breathing is not present in an adult, give two ventilations and start CPR, beginning with compressions.	If normal breathing is not present in an adult, give two ventilations and assess for "Signs of Circulation," including return of breathing, coughing, and moving. If signs of circulation are not present within 10 seconds, begin CPR.	The lack of normal breathing in an adult, especially when accompanied by sudden collapse, is a good indicator of sudden cardiac arrest. In addition, there is evidence to show that it is difficult, and of questionable benefit, for lay providers to adequately assess signs of circulation.
5.	Rescue ventilations without chest compressions will no longer be recommended to be taught to the lay rescuer in coming to the assistance of an adult patient.	When Signs of Circulation are present and breathing is absent, provide continuous rescue ventilations 10-12 times per minute or once every five to six seconds.	The lack of normal breathing in an adult, especially when accompanied by sudden collapse, is a good indicator of sudden cardiac arrest. In addition, there is evidence to show that it is difficult, and of questionable benefit, for lay providers to adequately assess signs of circulation.

continued



Updated CPR Guidelines for Training Programs (continued)

	<i>New Guideline</i>	<i>Old Guideline</i>	<i>Rationale for Change</i>
6.	Use one or two hands, centered on the chest at about the nipple line, to provide chest compressions on a child.	Use one hand, on the lower half of the breastbone, to provide chest compressions on a child.	Due to potential differences in either the size of children or their rescuers, it is up to the rescuer to decide how many hands best fit the circumstances. In addition, simplifying the hand location to match that of the adult will make it easier to recall in an emergency, regardless of the age of the patient.
7.	Use two fingers, just below the nipple line, to provide chest compressions on an infant.	Use two fingers, one finger's width below the nipple line, to provide chest compressions on an infant.	Simplifying the location of finger placement eliminates potential differences due to rescuer finger size.
8.	During CPR, use a 30:2 compression to ventilation ratio for all ages.	During CPR, use a 15:2 compression to ventilation ratio for an adult; use a 5:1 compression to ventilation ratio for infants and children.	Frequent interruption of chest compressions significantly decreases the amount of blood being moved forward in the circulatory system. Increasing the number of consecutive compressions in the CPR ratio will improve the blood flow to the brain and other internal organs. A universal compression to ventilation ratio of 30:2 will be easier to recall in an emergency regardless of the age of the patient.
9.	When other responders are available, rotate the compressor role about every two minutes to prevent compressor fatigue. Switch quickly (less than five seconds) to minimize interruption of compressions. Do not reassess.	When other responders are available, have another responder take over when the compressor feels fatigued. Reassess for responsiveness, breathing, and signs of circulation before reinitiating CPR.	Rescuer fatigue, which occurs very quickly, can significantly influence the quality of chest compressions. Rotating the compressor's role can help maintain the most effective compressions possible.
10.	When alone and caring for a child or infant found unresponsive and not breathing, provide approximately 2 minutes of CPR (5 cycles of 30 compressions:2 breaths) prior to activating EMS and getting an AED.	When alone and caring for a child or infant found unresponsive and not breathing, provide approximately 1 minute or CPR (20 cycles of 5 compressions:1 breath) prior to activating EMS and getting an AED.	Children typically stop breathing from progressive causes involving the airway or breathing, such as drowning, choking, or asthma. Immediate bystander care can have a greater positive influence on the outcome than immediate activation of EMS or use of an AED.
11.	Once started, continue CPR until an AED is attached, the patient moves or until another CPR or EMS responder takes over your care.	After starting CPR, check for signs of circulation after approximately one minute and every few minutes after that.	Any disruption in CPR reduces the overall effectiveness of the treatment. It is unlikely that CPR alone will reverse cardiac arrest.

Continued



Updated CPR Guidelines for Training Programs (continued)

	<i>New Guideline</i>	<i>Old Guideline</i>	<i>Rationale for Change</i>
12.	If directed by an AED, deliver a single shock, followed immediately by 5 cycles or approximately 2 minutes of CPR.	If directed by an AED, deliver up to three consecutive shocks, followed by reassessment for responsiveness, breathing and signs of circulation. If no signs are present, perform approximately one minute of CPR.	The greatest chance of successful defibrillation occurs on the first shock. Successive shocks result in marginal increases of success. Research has indicated the delivery of immediate CPR after the initial shock can increase the rate of success on subsequent shocks. In addition, if an initial shock is successful, immediate CPR can help maintain blood movement for a short period while the defibrillated heart slowly rebuilds its strength. It is unlikely CPR will cause a heart to go back into arrest.

The "source authority" for information provided in this document is 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care; *Circulation*, 2005; 112:IV-206-IV-211; © 2005 American Heart Association.

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